

会 签

The calculation is based on the following conditions:
 sea water temperature: $-3\text{ }^{\circ}\text{C}$
 ambient air temperature: $-20\text{ }^{\circ}\text{C}$
 Atmospheric pressure: 100 [Kpa]
 According to calculation a boiler capacity of 2000kg/h is enough
 for vessel lbc005~008

					30000DWT LAKE-SIZE DOUBLE-SKIN BULK CARRIER	Detail Design/详细设计			
						SC4447(MD)G1-401-0JS			
MARKS 标记	NUM. 数量	REVISION NO. 修改单号	SIGN 签字	DATE 日期	STEAM CAPACITY CALCULATION (FOR EQUIPMENTS)	TOT. AREA 总面积	0.125m ²	PAGE 页数	1/2
DESIGNED 编制	孙龙英		DATE 日期	20100311		SHANGHAI MERCHANT SHIP DESIGN&RESEARCH INSTITUTE,CSSC 中国船舶工业集团公司 上海船舶研究设计院			
CHECK 校对			DATE 日期						
VERIFIED 审核			DATE 日期						
APPROVED 批准			DATE 日期						

旧底图登记号

底图登记号

This drawing and the information contained is the exclusive property of SDARI and must not be copied or handed over to third parties without our written permission.

本图（文件）及所含内容的知识产权属于上海船舶研究设计院（SDARI）。未经本院书面许可，任何人不得复制或转交第三方。

Note:f—Loading coefficient(%), C—Continous heating , I— Interrupted heating																								
Num	Item.	Cap. (m ³)	Qty.	Steam Pre. (MPa)	Steam Temp. (℃)	Steam consumption (kg/h/each)		Sailing				Put in or put out				Loading or unloading				Port				
						Heat loss	Total	Qty. in use	f %	C	I	Qty. in use	f %	C	I	Qty. in use	f %	C	I	Qty. in use	f %	C ¹	C ²	I
										kg/h				kg/h				kg/h				kg/h		
1	M/E F.O.SUPPLY UNIT	/	1	0.7	169	/	145	1	100	145		1	100	145		1	35		50.8	1				
2	G/E F.O.SUPPLY UNIT	/	1	0.7	169	/	45	1	100	45		1	100	45		1	100	45		1	100	45		
3	H.F.O. PURIFIER	/	2	0.7	169	/	100	1	100	100		1	100	100		1	100	100		1	100	100		
4	L.O. PURIFIER (M/E)	/	1	0.7	169	/	52	1	100	52		1	100	52		1	35		18.2	1	35			18
5	L.O. PURIFIER(G/E)	/	1	0.7	169	/	40	1	100	40		1	100	40		1	100	40		1	100	40		
6	A.C. HEATER	/	1	0.7	169	/	395	1	100	395		1	100	395		1	100	395		1	100	395		
7	CALORIFIER	/	1	0.7	158	/	415	1	50		208	1	50		208	1	50		208	1	50			208
8																								
9																								
10																								
11																								
12																								
13																								
14																								
15																								
16																								
17																								
18																								
19																								
$C = \sum_{i=1}^n C_i \quad I = 0.5 \cdot \left(I_{\max} + \sum_{i=1}^n I_i \right)$										777	208			777	208			580	242			580	0	217
Total:	$Q = \left(\sum_{i=1}^n C_i \right)_{\max} + 0.5 \cdot \left(I_{\max} + \sum_{i=1}^n I_i \right)$							985				985				822				797				

STEAM CAPACITY CALCULATION (FOR EQUIPMENTS)

SC4447(MD)G1-401-0JS

Page 2/2

机舱舱柜蒸汽耗量表Steam consumption calculation 说明/NOTE: f—负荷系数/LOAD. COEFF. (%), C—连续加热/INTE. HEAT., I—间断加热/DISC. HEAT., K—保温加热/KEEP TEMP.																									STEAM CAPACITY CALCULATION (FOR TANKS)	
序号 N O .	加热设备/ HEATING TK	规格 /CAP. (m3)	数量 /QTY.	蒸汽压力 /STEM. P. (MPa)	蒸汽温 度 /SEAM. TEMP. (℃)	蒸 汽 耗 量Steam consump (kg/h/台数)		航 行/SAILING				进 出 港/PUT IN OR OUT				装 卸 货/LOAD. OR UNLOAD.				停 泊/PORT						
								使用 台数 /QTY.	f %	C	I	使用 台数 /QTY.	f %	C	I	使用 台数 /QTY.	f %	C	I	使用 台数 /QTY.	f %	C ¹	C ²			
						保温 keep temp.	升温 rise temp.																			
1	NO.1 H.F.O. STOR. TK (P) NO.1 燃料油储存舱 (左)	576.4	1	0.7	169	273.634	644.8	1	100	645		1	100	645		1	100	645		1	100			644.81	SC4447 (MD) G1-401-00JS	
2	NO.1 H.F.O. STOR. TK (S) NO.1 燃料油储存舱 (右)	576.4	1	0.7	169	273.634	644.8	1	30		82.1	1	30		82.1	1	30		193	1	30			193.44		
3	H.F.O. OVERFLOW 燃料油溢油舱	47.8	1	0.7	169	88.4046	98.34												1	30			29.503			
4	F.O. WASTE TK. 燃油废油舱	12.5	1	0.7	169	34.8169	77.89												1	30			23.366			
5	BILGE WATER 舱底水舱	26.2	1	0.7	169	19.816	144.9	1	30		5.94								1	15			21.738			
6	NO.1 H.F.O. SETT. TK. NO.1 燃料油澄清舱	26.7	1	0.7	169	28.5563	52.66	1	100	52.7		1	100	52.7		1	100	52.7		1	100			52.662		
7	NO.1 H.F.O. SERV. TK NO.1 燃料油日用舱	26.7	1	0.7	169	33.511	58.59	1	100	33.5		1	100	33.5		1	100	33.5		1	100			58.588		
8	M/E L.O. CIR. TK. 主机滑油循环舱	14.4	1	0.7	169	15.5338	41.82	1	30		4.66	1	100	15.5		1	30		15.6	1	30			4.6601		
9	L.O. PURIFIED SLUDGE TK. 滑油分离油渣舱	7.7	1	0.7	169	10.2736	37.53												1	100			37.535			
10	L.O. WASTE TK. 滑油废油舱	12.7	1	0.7	169	24.4224	55.36												1	30			16.608			
11	F.O. PURIFIED TK. 燃油分离油渣舱	15.4	1	0.7	169	20.7424	90.17												1	100			90.169			
12	M/E DIRTY O. TK. 主机废滑油舱	7.46	1	0.7	169	20.599	36.35												1	30			10.905			
13	NO.2 H.F.O. STOR. TK (P) NO.2 燃料油储存舱 (左)	192.5	1	0.7	169	180.874	274	1	30		54.3	1	30		54.3	1	30		54.3	1	30			82.194		
14	NO.2 H.F.O. STOR. TK (S) NO.2 燃料油储存舱 (右)	192.5	1	0.7	169	180.874	274	1	50		90.4	1	50		90.4	1	30		54.3	1	30			82.194		
15	NO.3 H.F.O. STOR. TK (P) NO.3 燃料油储存舱 (左)	75.3	1	0.7	169	34.2693	82.86	1	30		10.3	1	30		10.3	1	30		10.3	1	30			24.859		
16	NO.2 H.F.O. SETT. TK. NO.2 燃料油澄清舱	26.7	1	0.7	169	28.5563	52.66	1	50	26.3		1	50	26.3		1	50		14.3	1	50	26.3				
17	NO.2 H.F.O. SERV. TK NO.2 燃料油日用舱	26.7	1	0.7	169	28.5854	53.97	1	50	27		1	50	27		1	50		14.3	1	50	27				
18	0	0	1			0								0				0				0				
19	0	0	1							0				0				0				0				
20	0	0	1							0				0				0				0				
21	0	0	1							0				0				0				0				
22	0	0	1							0				0				0				0				
合计 $C = \sum_{i=1}^n C_i \quad I = 0.5 \cdot \left(I_{\max} + \sum_{i=1}^n I_i \right)$										784	169			800	164			731	275			53.3	0	1009	第 1 页	
总计 $Q = \left(\sum_{i=1}^n C_i \right)_{\max} + 0.5 \cdot \left(I_{\max} + \sum_{i=1}^n I_i \right)$								953.36				963.59				1005.92				1062.34				共 1 页		